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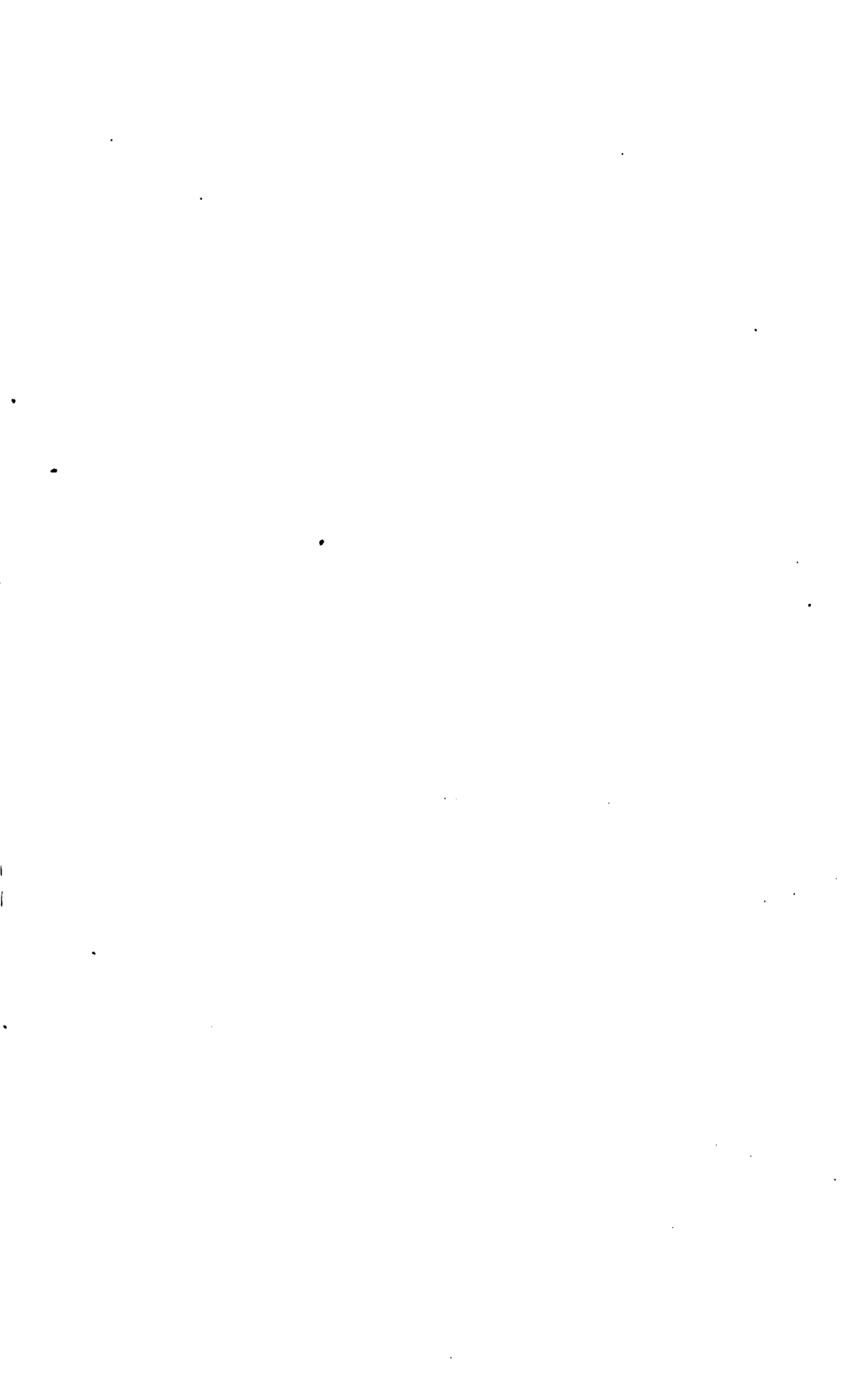
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OBSERVATIONS
ON THE
TREATMENT OF PUBLIC PLANTATIONS,
MORE ESPECIALLY RELATING TO
THE USE OF THE AXE.

By
F. L. OLMSTED AND J. B. HARRISON.

BOSTON:
T. R. MARVIN & SON, PRINTERS,
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Acc. no.
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MR. KILLIAN VAN RENSSELAER,

Dear Sir:—We have the honor to present a paper prepared at your suggestion in behalf of the West End Improvement Association, the Torrey Botanical Club, the Park Commissioners of New York and others interested, in relation to the treatment of public plantations.

Your obedient servants,

FREDERICK LAW OLMSTED,
Landscape Architect.

J. B. HARRISON,
Cor. Sec. Amer. Forestry Congress.

30th APRIL, 1889.

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OBSERVATIONS
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TREATMENT OF PUBLIC PLANTATIONS.
MORE ESPECIALLY RELATING TO
THE USE OF THE AXE.

It has been said of our old frontier settlers that they seemed to bear a grudge against trees, and to be engaged in a constant indiscriminate warfare with them. If this were so a strong reaction has since set in, of which a notable manifestation appears in the fact that with regard to no other matter pertaining to the public grounds of our cities has public interest taken as earnest, strenuous and effective a form as in respect to the protection of their plantations against the axe.

It has occurred repeatedly of late years that ladies and gentlemen, seeking their pleasure during the winter in public parks, have chanced to see men felling trees, and have been moved by the sight to take duties upon themselves that nothing else short of a startling public outrage would have led them to assume. Sometimes they have hastened to stand before a partly felled tree and have attempted to wrest the axe from the hand of the woodsman. Oftener they have resorted to the press and other means of rousing public feeling, and not unfrequently a considerable popular excitement has resulted. At the time of such excitements a strong tendency has appeared in many minds to assume that the act of tree-cutting marks those who are responsible for it as unsuscepti-

ble to the charm of sylvan scenery, and to class them with the old indiscriminately devastating pioneers.

We say that such manifestations of public spirit in respect to the protection of plantations have been frequent. They have occurred, for example, within a few years in Brooklyn, Boston, Washington and San Francisco. They have in some cases affected legislation. They have appeared in the halls of Congress, and statesmen have had part in them. Since the planting of Central Park there have been several in New York. The leaders in them have often been citizens deservedly high in public esteem, more than commonly well equipped with general information, liberally educated, of good social standing and wide influence.

Naturally an effect of such manifestations of public sentiment has been to make those in direct superintendence of public plantations, and the governing boards supervising them, extremely reluctant to use the axe. In some cases, for years not a tree has been cut down; in others only decaying trees which were prominent eye-sores or dangerous to passers-by, and even when these were to be dealt with the work has been done in stormy weather, when it was little likely to be observed by visitors, and care has been taken to put the fallen wood out of sight as soon as possible. To guard against the provocation of public feeling even in such extreme cases, a standing order has been made by one Park Commission that not a tree should be cut in its plantations till leave had been granted for it by a majority vote of its Board. One of the best trained and most successful tree growers in the country having been dropped from the service of this Board, a member of it gave as the reason for his dismissal that he had been too anxious to obtain leave to cut out trees. In another case the effect of the agitation was such that a laborer refused to fell a tree when ordered, fearing that he would be punished for it as for a crime.

Early this Spring there was a movement in New York partaking of the character of those which had gone before. In the opinion of some having part in it, trees had been felled in Central Park to an extent, and with a degree of unfeeling

indiscrimination and disregard of the landscape effects with a view to which they had been planted and grown, that called for the severest condemnation.

Some difference of opinion having been developed in the course of the proceedings to which this movement gave rise, it was thought desirable that an opinion should be obtained from experts other than those to whose judgment the Commissioners had been leaving the matter. To this end the undersigned were selected,—one the Secretary of the American Forestry Congress, the other one of the designers of the Park, and for forty years a tree grower. The request to them was made in behalf of the West End Improvement Association, the Torrey Botanical Club and the Park Commissioners. The duty which they assumed was to review the plantations of the Park, and report how far the tree-cutting upon them had been in accordance with the requirements of the park design and with approved professional practice.

While no sensible man will deliberately maintain that a tree can never be wisely removed from a public plantation, it will be seen from what has been said, that a public sentiment is liable to be cultivated, the effect of which, in numerous instances, may be to keep trees standing for years that might more wisely be cut, and in a general way to *prevent the free exercise of any specially competent judgment upon the question.*

Hence, instead of simply reporting our own view of the particular case that we have been asked to consider, we have thought it better that we should set forth by quotations what may be regarded as the Common Law view of the duty, in respect to the cutting of trees, of a professional public servant to whom has been given the direction of plantations. We venture to say that no man, however well informed he may be in other respects, can have a respectable understanding of this duty to whom such precepts as are about to be cited are not familiar. It is greatly to be desired that knowledge of them and faith in them should be more generally diffused than it is at present among leaders of public opinion in all our cities. In view of the circumstance that New York has a large scheme of new parks and park improve-

ments before it, a publication of them may be hoped to be useful.*

1. "It is in the act of removing trees and thinning woods that the landscape gardener must show his intimate knowledge of pleasing combinations, his genius for painting, and his acute perceptions of the principles of an art which transfers the imitative, though permanent beauties of a picture, to the purposes of elegant and comfortable habitation, the ever-varying effects of light and shade and the inimitable circumstances of a natural landscape."—*Repton*.

2. "The old adage, 'PLANT THICK AND THIN QUICK,' holds as good now as centuries ago."—*Douglas*.

3. "Fully half the number of plants inserted per acre should be removed by the time that the most valuable are twenty-five feet high."—*Grigor*.

* Among those to be quoted are the following: *Loudon*, J. C., author of *Arboretum Britannicum*, the *Cyclopedia of Gardening*, and many other standard technical works; *De Candolle*, Augustin, an eminent botanist, friend and co-worker with Cuvier and Humboldt; *Lauder*, Sir Thomas Dick, editor and commentator upon the works of Price and Gilpin; *Whateley*, Thomas, a member of the British Parliament, and author of the first standard work on Modern Gardening; *Cobbet*, William, author of "Woodlands" and various famous works on Rural Economy; *Repton*, Humphrey, author of several works on Landscape Gardening and the most distinguished English landscape designer of the present century; *Smith*, C. H. J., author of a treatise on Parks and Pleasure Grounds; *Speechly*, *Grigor*, *Main* and *Brown*, authors of well-known treatises on Plantations; *Emerson*, G. B., author of a treatise on Trees, prepared at the request of the Legislature of Massachusetts; *Brisbane*, Gen. J. L., U. S. A.; *Hough*, *Scott* and *Bryant*, authors of works on Tree Planting and Landscape Gardening, published in the United States; *Fernow*, Editor of U. S. Government Reports of Forestry; *Sargent*, C. S., Professor of Forestry in Harvard University and Superintendent of the Forestry Division of the United States Census, 1880; *Hall*, J. H., State Engineer of California; *McLaren*, John, Superintendent of Golden Gate Park, San Francisco; *Beal*, Wm. J., Professor of Horticulture, Agricultural College of Michigan; *Fay*, J. S. and *Forbes*, J. M., notable citizens of Eastern Massachusetts who have been in direction of plantations, one above thirty, the other fifty, years; *Douglas*, Robert, the oldest and most successful large planter in North America, his plantings in the arid regions of the far West alone amounting to over three million trees.

4. "For the best results, we must plant thickly, keep removing, some here some there, perhaps adding others."—*Beal*.

5. "Thinning is one of the most indispensable operations."—*Brown*.

6. "Of the implements required to produce a fine tree the axe is certainly the first and most important."—*Sargent*.

7. "We now come to the most important consideration connected with forestal questions, that of thinning the trees."—*Hobbs*. (Report to American Forestry Congress, 1886.)

8. "They go on vegetating but hardly growing. The remedy is obvious. *Every year* they need to be thinned."—*Emerson*.

9. "Though they are still far short of their growth, they are [from neglect of thinning] run up into poles, and the groves are already past their prime."—*Whately*. (Criticism on Cleremont Park.)

10. "A natural growth of pine which was thinned when six years old showed an increased rate of accretion three times as great as that of the part not thinned, which was also deficient in height growth."—*Fernow*.

11. "Wherever systematic thinning has been applied the crops are of nearly double the value at a given age." "We divide the several plantations into three portions, and thin one portion regularly and systematically each year successively."—*Brown*.

12. "It is an undeniable fact that the weakly, unprofitable, and therefore unsatisfactory state of a large extent of plan-

tations is to be attributed to the neglect of systematic thinning." "We frequently see woods growing upon the best land, matured when only some sixty years old : This arises from neglect of systematic thinning."—*Brown*.

13. "At all stages of a plantation, spaces should be gradually allowed, according to the growth of the trees, which, with some sorts, in favorable situations, extends till the plantation is eighty years of age."—*Grigor*.

14. "The thinning may be continued gradually as the trees grow larger."—*Bryant*.

15. *Hough* gives a table showing the number of trees held, as the result of long experiments, by the German Government Department of Forestry, as desirable to be left in thrifty plantations after a growth of from thirty to one hundred years. The number to remain at fifty years is less than half that at thirty, at one hundred years less than half that at fifty.

16. "To form fine ornamental groves or most valuable woods, the trees should be planted thickly, and when they have attained a sufficient length of bole, thinned gradually till each individual tree enjoys a sufficient share of light and air to bring it to its utmost magnitude and perfection."—*Main*.

17. *Loudon*, in *Arboretum Britannicum*, concludes from an examination of the cultivated larch plantations of the Duke of Athol, that in the most successful practice seven trees out of eight will have to be thinned out in the first twenty years, and quotes *De Candolle* as having reached a similar conclusion from observations in France.

18. *Lauder*, (in a note upon Gilpin's Forest Scenery), says that to make an artificial plantation which shall ultimately resemble a natural plantation, "the best way" is to so manage as that "by a frequent and judicious use of the axe, the best individuals, and those most calculated to associate and harmonize together, are left in permanent possession of the ground." "This mode, be it understood," he adds, "requires constant attention—an attention unremitting from the earliest years of the plantation, till nothing remains but the permanent trees; otherwise, from too long confinement or other causes, stiff and unnatural forms may be produced."

19. "Nurses are surplus trees or shrubs introduced into the plantation for a temporary purpose, for the occupancy of the ground to shelter and protect the permanent plants and to aid in forming them into well shaped trees." "Unless care be taken to subordinate these nurses they will be likely to overwhelm the more valuable plants."—*Brisbane*.

20. "Experience shows us that the oak would make but a slow progress for a number of years were it not for some kind nurses; the birch seems to answer that purpose the best." "After the birches are cut down there is nothing more to be done but thinning the oaks, from time to time, as may be required."—*Speechly*.

21. *Cobbett* records in "Rural Rides" that he saw at New Park two plantations of oaks, one twelve years old, grown with nurses, the other adjoining, on land thought to be better, twenty years old without nurses. The second "was not nearly so good as the first."

22. "White pine cannot endure our prairie winds if standing exposed, and the same holds good on our Eastern

Coast ; but intermixed with Scotch pine they have succeeded admirably ; the Scotch pine making the most rapid growth during the first five years were overtopped in less than two years [afterwards] and cut out, leaving the White pines to occupy the ground."—*Douglas*.

23. "When the nurses consist of inferior kinds, they should generally be all removed by the time that the plantation arrives at the height of fifteen or twenty feet."—*Loudon*.

24. "From the time that all the nurses are removed, in each of the subsequent thinnings, those trees should first be cut down which appear to press on their stronger and more healthy neighbors, and to deprive them of the room and nourishment needful to their increasing growth."—*Smith*.

25. Addressing the Southampton Chamber of Commerce, Mr. *T. W. Shore*, urging the importance of a School of Forestry, observed that the management of the New Forest was "a national disgrace." "Look," he said, "at the many thousands of young trees choked by their nursing pines." "So many young trees killed before they are grown, and see the pines growing so large and thick as to be at the present time actually killing each other."

26. Consistently with this, Mr. *Gladstone*, speaking on the same topic in the House of Commons, referred to a popular "superstition," which caused the thinning of plantations to be too much neglected, as the most serious difficulty to be overcome in an improvement of British tree-growing.

27. "Now we have trees whose natural habits would produce heads of foliage twenty-five to thirty feet across, at ten to fourteen years of age (and which were planted four

to eight feet apart, with the view of gradually cutting out full two-thirds of the number within the years down to this time), still standing in the groups as planted—spindling, bare-stalked saplings within the groups and one-sided shams around the margin thereof; in many cases not a single well-developed specimen in the whole group. In this respect the main large clumps of the older trees are rotten shams, which in a few years, because the individual trees are spindling, weak and light-rooted, and with foliage and branches high up the trunk only, will commence to blow down wholesale.” “These trees were never intended to stand permanently in such places. There are thousands which are serving no other purpose than to ruin others.”—*Hall*.

28. “I have charge of several hundred acres in forest and ornamental tree growths. My practice has been to plant thick, and thin as soon as the trees showed the slightest indication of interfering with one another. The result has been most satisfactory. Where this work [of thinning] has been neglected, the result has been disastrous.”—*McLaren*.

29. “I find the older plantations in very bad condition, which is the result of the neglect of thinning. They are planted thick for various reasons, but have been allowed to stand as planted until the lower branches have died off, and the trees spindled up to their stems.” “I have seen whole acres of conifers die off in a single year from these causes” [neglect of thinning].—*McLaren*.

30. Mr. *Forbes* planted extensively fifty years ago, and, on account of the extreme bleakness of the site, under the advice of Mr. Downing, as he writes, “*very thickly*,” but he

adds "the axe has been used vigorously *every year*, and a look at the plantations at this time will convince everybody that this was absolutely essential." Of certain other plantations he says: "They were nearly ruined for the want of courage with the axe." "The trees are fast becoming broomsticks with branches on top."

"Most trees are gregarious in extreme youth, from habit transmitted through many generations; they love company, and only thrive really when closely surrounded. Close planting is essential, therefore, to insure the best results. As the trees grow, the weaker are pushed aside, and finally destroyed by the more vigorous, and the plantation is gradually thinned. This is the operation which is always going on in the forest when man does not intervene. It is a slow and expensive operation, however, and the result is attained by a vast expenditure of energy and of good material. The strongest trees come out victorious in the end, but they will bear the scars of the contest through life. The long, bare trunk, with a small and misshapen head—the only form of a mature tree found in the virgin forest—tells of years or of centuries of struggle, in which hundreds of weaker individuals may have perished, that one giant might survive. But man can intervene, and by judicious and systematic thinning help the strong to destroy the weak more quickly, and with a less expenditure of vital force. Thick planting is but following the rule of nature, and thinning is only helping nature do what she does herself too slowly, and therefore too expensively. This is why trees in a plantation intended for ornament, like those in a park or pleasure-ground, should be planted thickly at first, and why they should then be systematically thinned from time to time; and it is because this systematic thinning is altogether neglected, or put off until

the trees are ruined for any purpose of ornament, that it is so rare to find a really fine tree in any public place or private grounds."—*Sargent*.

It will be observed that all agree that in good practice trees are planted originally much closer than it is desirable that they should be allowed to grow permanently, and that, from every well-planted large body of trees, some are removed every year up to at least eighty years. This for centuries has been the established custom in Great Britain and on the continent of Europe, and it is approved by every American to whom the subject has been one of anything like professional study, whether with reference to the object of sylvan charm of scenery or simply that of growing the largest amount of wood in the shortest time.

Upon this point, we have not, with considerable search, found one man with any claim to be regarded as an authority, differing from those we have quoted. Many writers on Landscape Gardening say nothing about it; but this evidently because they assume that their readers will be of a class not needing to be advised of a principle so well established.

Undoubtedly authorities differ a little in their views as to the extent to which, in the management of plantations for landscape-effect, the thinning process should be pursued. But such differences mainly represent varying degrees of susceptibility to the charm of one or another variety of sylvan scenery, and a consequent disposition to give more prominence in writing to one or another. We may observe that if there can be considered to be two schools in this respect, we should ourselves be classed with that which favors the less uniform use of the axe, and which believes in sometimes sacrificing more of the chances for long and perfect development of trees to the result of a more playful disposition and greater variation of companionship of them. We should, more than some, guard in thinning against making any tree individually conspicuous. We would not have the least con-

fusion between the purpose of a Park and the purpose of an Aboretum.

But no difference in this respect among those who have carefully studied the results of varying practice during many years, subtracts, in the slightest degree, from the unanimity with which they condemn all such management of plantations as it is the tendency of public sentiment to compel public servants to adopt. Instead of saying that if men are seen to be cutting trees out of a plantation there is a presumption of ignorant or unfeeling management, which, practically, is the prevailing disposition with those expressing the most affectionate interest in our parks, they are agreed in teaching that whenever a year passes in which trees are not cut out of any extensive plantation, there is ground for presumption—a very strong presumption—that the management is ignorant or neglectful of its most important duty.

The fact is, nevertheless, that until men, whether non-professional commissioners of public plantations or non-professional planters on their own private account, have learned better by costly lessons of personal experience, they are generally much indisposed to plant as thickly as is necessary, and still more indisposed to allow plantations to be thinned as is desirable. Often, therefore, plantations become and remain crowded to a degree which brings many of their trees to death, or to a decrepit and slowly dying condition, and which draws all others into such forms that, even if by a late use of the axe they are at last given ample branch and root room, they are precluded from taking advantage of it. They come to be of senile habit, and it is no longer possible for them to contribute to broad, rich and harmonious compositions of foliage.

The question then will often arise:—What can best be done in places where trees have been more or less seriously injured by crowding;—in what degree is their restoration to be wisely aimed at;—to what extent will it be more judicious to clear the ground and replant? A landscape architect who has had probably as large a private practice as any other in the country, says that no other question oftener comes to him,

and no other is a greater tax upon his professional resources. It is easy in any given case, for a shallow, conceited quack to settle it flippantly; it is easy to settle it indolently; it requires experience, close study and sagacious foresight to determine the best practicable settlement of it. Upon this point we present a few additional quotations:—

1. Speaking of a case where due, gradual thinning had been neglected, *Grigor*, in his Treatise on Forestry, (Edinburg, 1868), says: "Although a thinning is now going on, it is doubtful if the trees left will make much more progress." "The only question is whether it would not be better to clear the trees off at once by rooting them out. Had the ground been in a conspicuous position I should have had no hesitation in recommending that course, for, however common, few scenes more unsightly are to be met with than the display of unshapely trees struggling for existence, and diseased through mismanagement."

2. *Loudon* quotes a passage from *Lang*, urging the importance of timely thinning, observing that if neglected "*the plantation will inevitably be ruined.*"

3. "If thinning is delayed too long, the stems will be slender and feeble." "Dead and dying trees should be taken out whenever found."—*Hough*.

4. "Considerable loss is frequently sustained by producing through long confinement tall trunks without a proportionate diameter; and unless the soil is very congenial and the trees of great vigor, they are often slow to become stout or shapely when ample space has at last been afforded to them."—*Grigor*.

5. "The first thing to be decided is the amount of *clean cutting* to be done,—what had better be entirely removed in order that something better may be developed."—*Scott*; Advice as to the Renovation of Old Places.

6. "It is very difficult to determine how to treat plantations that have been neglected in thinning. It is a bad job, and you can only hope to prevent further ruin, but not to entirely remedy that which is now so painfully apparent to any-one who knows about trees and their cultivation. *The trees in some parts are so far gone that they cannot be saved to good purpose. Better cut out spaces* within such groups and around the margins, fertilize the soil, trench it over, plant new trees, and as they grow *cut away the balance of the old ones.*"—*McLaren*.

7. "If I were again to set out young trees among the old woods, *I should cut the latter all down clean.*"—*J. S. Fay* (Experiments in Tree Planting, U. S. Forestry Report, 1877).

8. "When any plantation has stood long without being thinned, particularly such as are composed of coniferous trees, it is, we may say, impossible to recover it."—*Brown's Forester*.

9. "This plantation in place of being thinned gradually . . . had been subjected to a severe thinning all at once." "When a pine plantation has been mismanaged in this way, the proprietor should never hesitate but have it cut down at once and the ground replanted."—*J. B. Webster*, in *London Garden*, April 13, 1889.

We are now prepared to take up the case of the last winter's management of Central Park. What the designers of this Park had in view as to the treatment of its plantations may be inferred from the following passage in a report of theirs. Writing in advance of certain advised plantations, they said :—

“They are to be thinned out gradually as they come to interlock, until, at length, not more than one-third of the original number will remain; and these, because the less promising will have constantly been selected for removal with little regard to evenness of spacing, will be those of the most vigorous constitution, those with the greatest capabilities of growth, and those with the greatest power of resistance to attacks of storms, ice, disease and vermin. Individual tree beauty is to be but little regarded, but all consideration to be given to beauty and effectiveness of groups, passages, and masses of foliage. The native underwood is to be planted in thickets and allowed to grow in natural forms, enough of it being introduced to prevent, (in connection with the grouping of trees and interspaces of groups, to be formed by the process of thinning the tree plantations), a grove or orchard-like monotony of trunks.” *

But in much of the planting of the Park not only were several trees planted of each kind designed to remain permanently, with the object first, of protection, second, of selecting that to remain which should prove most promising of long life and vigor under the circumstances, but nurses were also planted among them. At the time of the earlier planting, the commercial nurseries of the country were overstocked with imported Norway Spruce, and plants of it could be bought by the thousand, of unusual size, at low rates. They

*General plan for the improvement of the Niagara Reservation, by Frederick Law Olmsted and Calvert Vaux.

were therefore much used as nurses, especially in the bleaker parts on the west side and where the planting was designed to be largely of white pines and hemlocks, which when young grow very slowly and often die if not well nursed.

When the time came for gradually removing these nurses and thinning out the less promising of other trees, the necessary work was restricted within exceedingly inadequate limits, and, as has been stated, at times, was for years wholly suspended. Consequently but a small part of the thinning needed was ever done. Numbers of the spruces intended to serve only as nurses from three to six years, remained on the ground after twenty years; some remain yet, after thirty years, and the pines and hemlocks that they were designed to foster have long since disappeared;—either smothered to death or cut out because dwarfed, sickened and mutilated by the oppression of the spruces.

Of the spruces thus brought into undesigned prominence, the late Governor Horatio Seymour stated, from experience on his own farm at Utica:—

“They grow rapidly when young, but become ragged and thin when they have got to be of any size. Their effect in groups is bad, as their sharp, tapering tops give them a weak, ineffective aspect.”

Probably there are localities in which this condemnation would be found too sweeping, but the Central Park is not one of them. Whenever a Norway spruce has proved worthy to remain, it would appear to be because of an exceptional vigor of constitution, and individual adaptation to the local circumstances. A large majority of all planted in the Park fell into a dwindling condition before they had come to be twenty years old. Four years ago it was observed that much the larger part of those originally planted had disappeared, but many quite dead ones remained; many more were barely alive, and these were disagreeable objects, disgraceful in themselves

to the management, but much more disgraceful in the ruin they had made of what would otherwise have been beautiful plantations, contributive to charming passages of sylvan scenery.

Fourteen years ago the professional adviser of the Park Department at the time made a report to the Commissioners, going over much of the ground of the present paper, including in part the citations from eminent tree-growers that have been given above, in support of his statements. He pointed out that the neglect of thinning had already gone far to destroy some of the most important plantations, and that if it continued it was but a question of time when the best thing that could be done, would be to clear considerable areas of ground and replant them.

This report was not published, but as a result of it a special force for thinning was allowed to be employed, and during an inclement season, when few visitors passed through the Park, within less than a month's time, more trees were felled than there had been altogether, probably, in ten years before. The advantage gained where the thinning was most resolute is now conspicuous. It may be seen, for example, on the rising ground, between the two lobes of the North Meadow, the most park-like part of the Park ; again on the north side of the eastern half of the road crossing the Park at Mount St. Vincent; on the borders of the drive mounting Bogardus Hill from the south ; near the drive opposite Summit Rock ; on Cherry Hill and at a few other points. A few complete clearances and replantings were made at this time. A group of hemlocks northwest of the Great Reservoir, for example, occupies ground in which a previous plantation had been ruined by the overgrowth of Norway spruce, the latter having been also ruined a little later, by their crowding of one another. It can be seen that these hemlocks have not been growing thriftily. This is because, in dread of a repetition of the first experience, they were planted too openly.

Within a month the public indignation was excited and the Commissioners ordered the work to be stopped.*

Not one man with the slightest pretensions to be regarded as an expert in Sylviculture has ever been employed in the service of the Park Department, without making efforts to obtain leave to thin the plantations, or without giving warning that a time was approaching when, if more thorough thinning than the Commissioners were willing to allow, should not soon be made, some of the most important bodies of trees would be ruined, and nothing would remain but to exterminate them and replant the ground.

When we were last passing through the Park before our recent visit, we had observed numbers of dead trees; larger numbers in a dying, and whole groups in a feeble, gaunt and dwindling condition, due to neglect of thinning. It had seemed to us probable that the time was passed when any process of thinning could be successfully used with them. Reading the reports sent this spring, with the request that we would review the plantations, we had been led to suppose that extensive clearings had accordingly been made, and that the principal question that we should have to consider would be whether such clearings had been carried too far, and had been of the insensate character alleged.

On the 20th of March we made an examination of the plantations of the Park, passing nearly from end to end of it four times, walking through all the localities to which our attention had been particularly invited, and bringing under close review all parts of the Ramble and other interior and secluded districts.

*There is probably no direct connection between the circumstances, but it is worthy of note that immediately following the public protest against the thinning of the Park plantations, of last winter, a bill is introduced to legislate the Commissioners responsible for it out of office. There may be no direct connection, but if public sentiment had been alive to the real character of that work, would those who instigate legislation have been as ready for the move?

It was nowhere apparent to us that trees had been lately removed inconsiderately or without regard for the motives of the original plan. At a number of points what might be regarded as small clearings were found. We saw no reason for doubting that the trees removed in these cases had been ruined for the purpose that had been had in view in the planting of them, by neglect of thinning, and that it had been intended to replant the ground ; and at one point we actually found men, so early in the season, beginning the work of replanting.

We saw not a few trees, which in our judgment must die before many years, standing in positions where, if allowed to remain, they will greatly retard the growth of others which if uncrowded would yet become long-lived and umbrageous. It is fair to assume that not a few failing trees thus doing mischief show an incomplete work of improvement.

It was estimated in a report sent us that the quantity of wood cut on the park during the last winter would measure little short of 250 cords. The plantations of the Park are mainly in the form of narrow belts and groups of irregular outline, alternating with spaces of rock, turf, water and road-ways ; these vacancies being larger on the whole than the planted spaces, so that a large proportion of the trees are open on two sides to light and air. The planted ground was well-drained ; the soil taken from the uncovered rocks and the road and water spaces was added to its original soil ; many parts had been occupied two years before the planting by small market gardens ; the whole was liberally treated with a compost of dung and limed peat, and with phosphates, and finely tilled to a depth of twenty inches. It has since been frequently top-dressed. The trees have been generally growing with extraordinary rapidity. The extent of the planted ground is estimated at 400 acres. The principal tree-planting of the Park was made in 1858, '59 and '60. Having been before thinned much too scantily, would it be thought, by experienced tree-growers, that the taking out of two or three

hundred cords of wood from such plantations, at the end of thirty years, was, as has been supposed, an excessive amount?

We cannot think that it would.

Considering how large a proportion of all the felled trees were probably of dead, dying or greatly enfeebled condition, we doubt if they would have borne this year two per cent. of the entire leafage of the Park. We are of the opinion that before midsummer the expanse of leafage that will be gained by new growth will be more than equivalent to all that has been cut off in the winter's thinning. (Let anyone passing through the Park six weeks hence ask if the foliage seems less in amount than it did at the same period last year.)

It is, however, more important to consider the lasting effect. As to this we do not think that a man can be found, of extended experience in plantations of a character corresponding with those of the Park, who, knowing the facts we have recounted, will have the least doubt that the body of foliage on the Park must within two years be considerably larger than it would have been, had the two or three hundred cords of trunks and limbs taken out last winter been left standing.

We have taken for granted that it has been intended to replant various small areas which, because of the destruction by crowding of the originally designed low foliage, were at the time of our visit of dreary aspect. It hardly lies within the duty assigned us, but we may be permitted to add that there are many parts of the Park where ground not now shaded by trees might much more suitably be occupied otherwise than it is. About a hundred paces east of the Springbanks Arch, on the south side of the road, there is a piece of ground of thin soil partly broken by rock, which is charmingly overgrown with low bushes and creepers. It has had much of its present pleasing character for at least twenty-five years, and in that time the annual cost of keeping it has not probably been a fiftieth part as much as the average annual cost of

keeping an equal area of the open turf and high shrubbery-studded spaces of the Park. In our judgment a somewhat similar covering would be desirably substituted for turf in many of its smaller openings, which it is never well should be crossed by visitors; in nearly all those, for example, of the Winter Drive and the hill north of it, which are now at large expense kept by lawn-mower and hand-rake, smooth, smug and tame, incongruously with the general character of the designed local scenery. Some slight indications of a desire for improvement in this direction were apparent to us. Should they be liberally followed up, the result, in connection with that of a more courageous management of the old plantations, would, at comparatively small expense, accomplish more for the beautifying of the Park than all that has been done for the purpose in many years. It may be well to say at this point that we have had no recent communication with anyone in the service of the Park, and none for years on the subject of this report. In speaking of the intentions of the management we mean only what is naturally to be surmised in that respect.

At first view it will seem remarkable that complaints so specific and so sweeping as those we have considered should be made by persons of a high degree of general intelligence without any support in the actual facts of the case. It will perhaps be thought hardly credible that the common impression and sentiment of the great body of good citizens as to what is desirable in the management of plantations should be in such direct conflict with what we have shown to be the general conviction of all lovers of natural scenery to whom the question has been one of professional study.

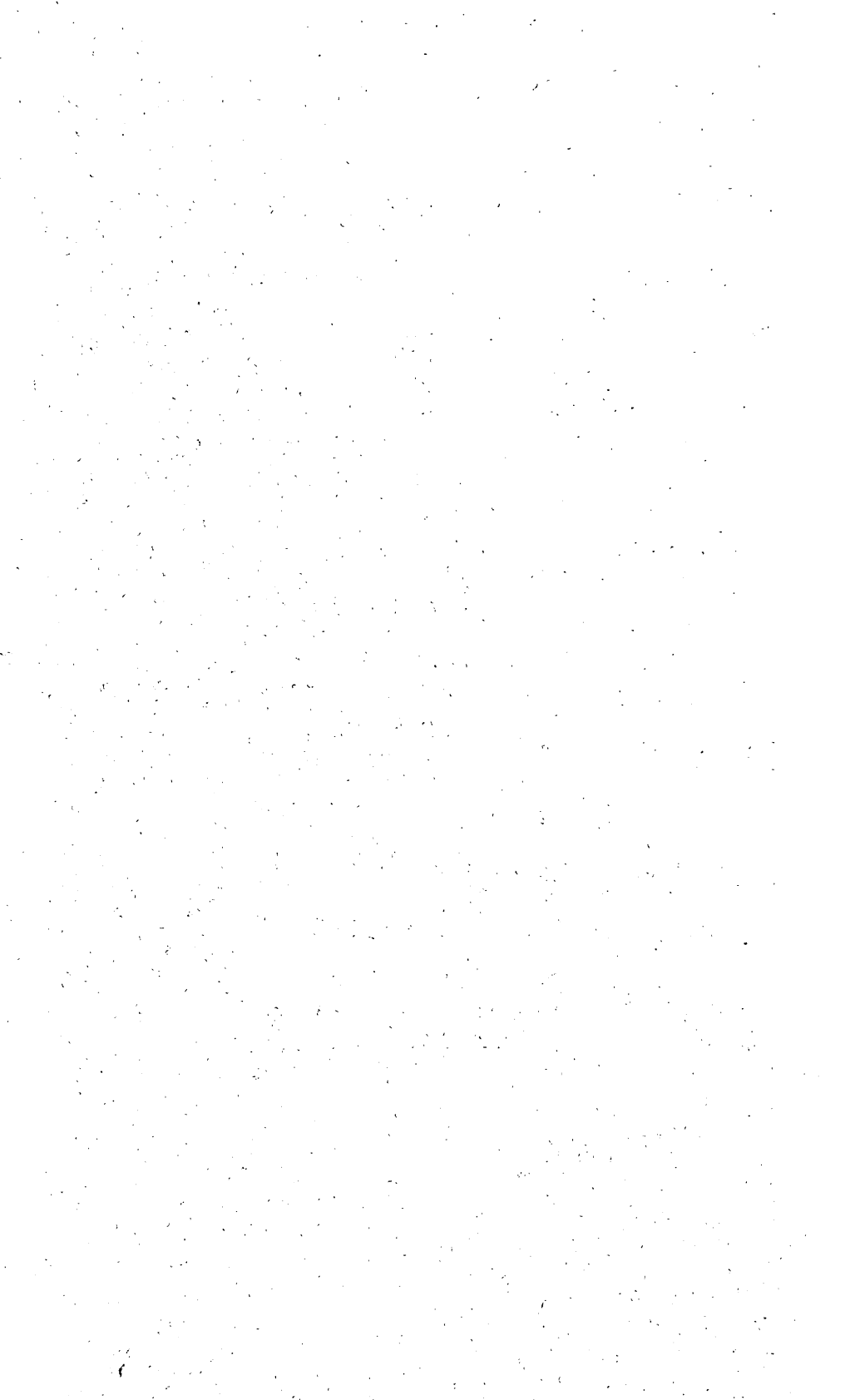
The explanation of the mystery is to be found, we suppose, in the fact that the management of a large park is an art the principles and methods of which are much further from being generally comprehended, even by cultivated men, than is commonly supposed. On this point we offer one more quotation bearing directly upon the particular point of management as to which expert opinion has been asked:

"To give such general rules for thinning as might be understood by those who never attentively and scientifically considered the subject would be like attempting to direct a man who had never used a pencil to imitate the groups of a Claude or a Poussin."—*Repton*.

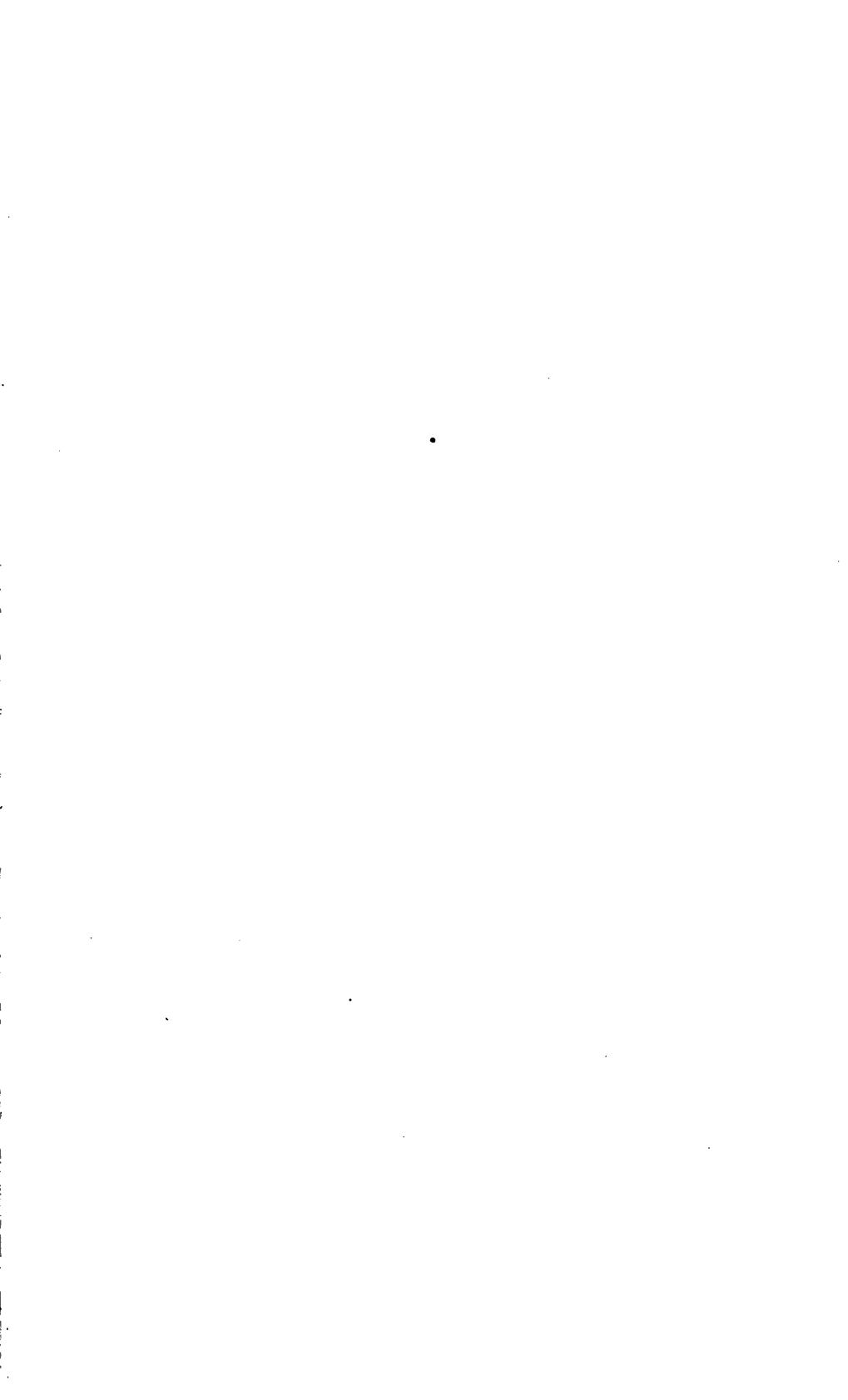
And yet it is most undesirable that public-spirited citizens should be led to relinquish any degree of interest that they may now feel in the management of the public grounds of our cities. It is most desirable that they should manifest still greater and more searching interest; that they should influence the management more directly, constantly and effectively. But to do so wisely will require a seriousness of thought upon the subject such as it yet seldom obtains. It will also require a degree of respect for the technical responsibility involved that few have yet begun to realize to be its due.

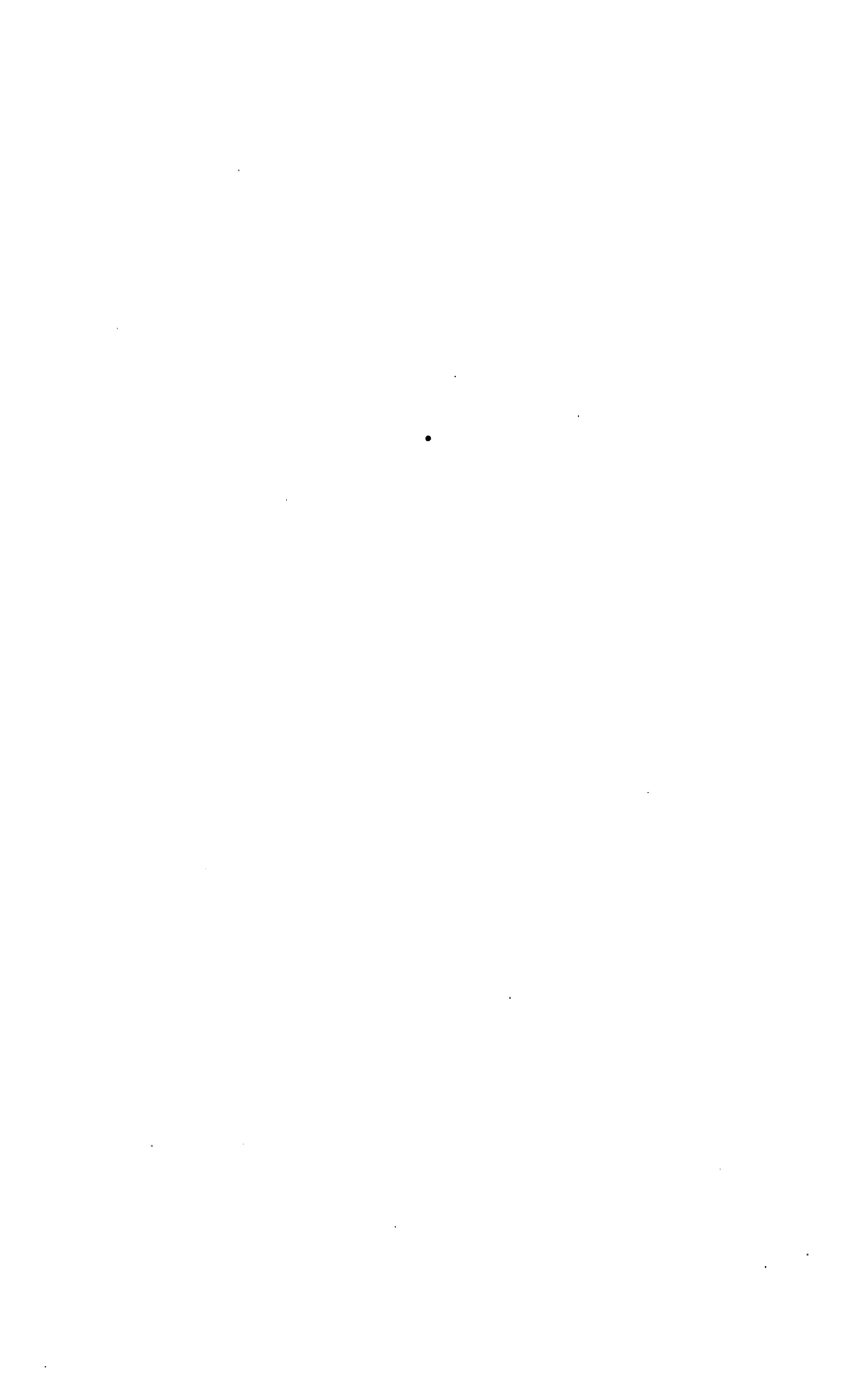
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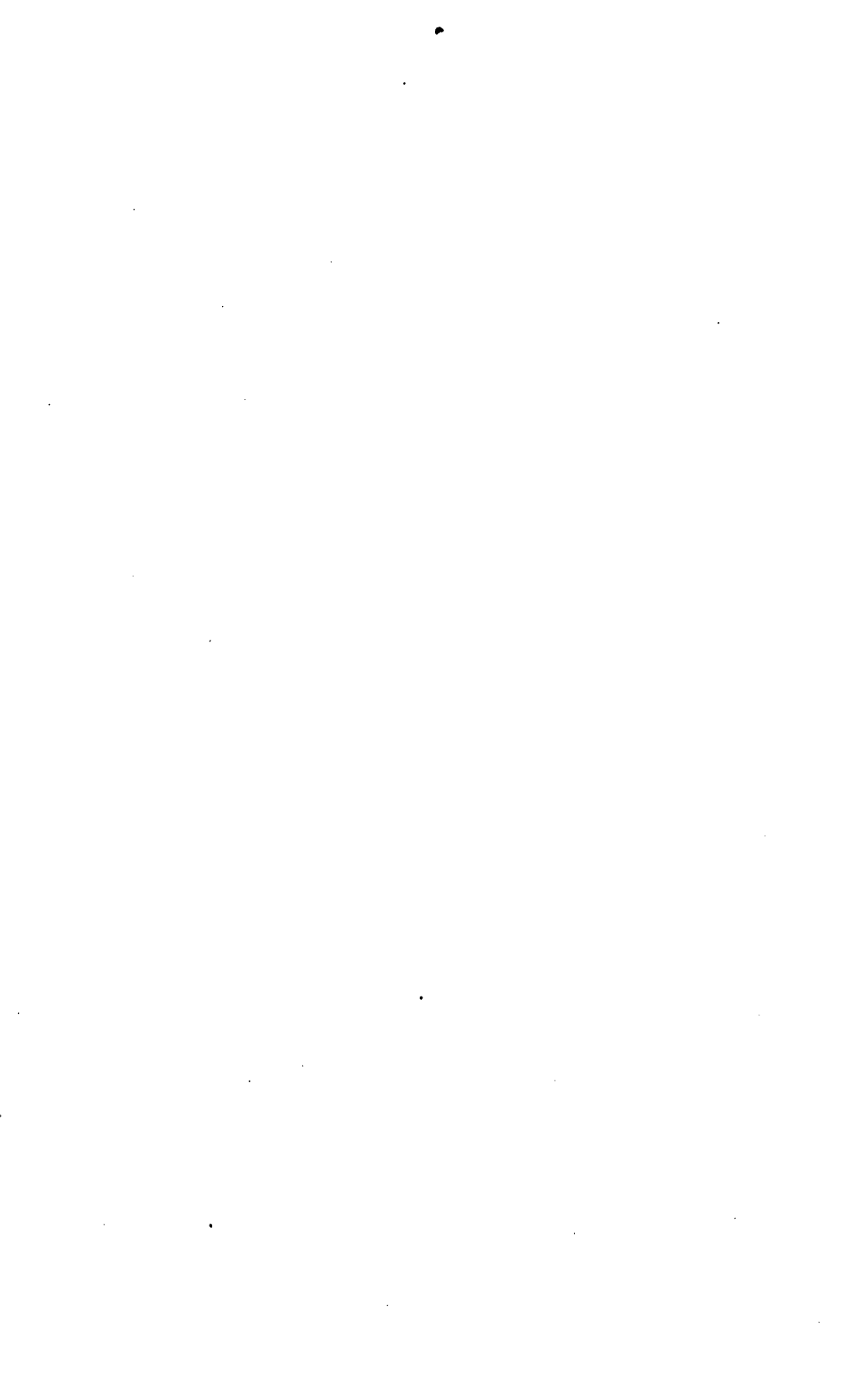


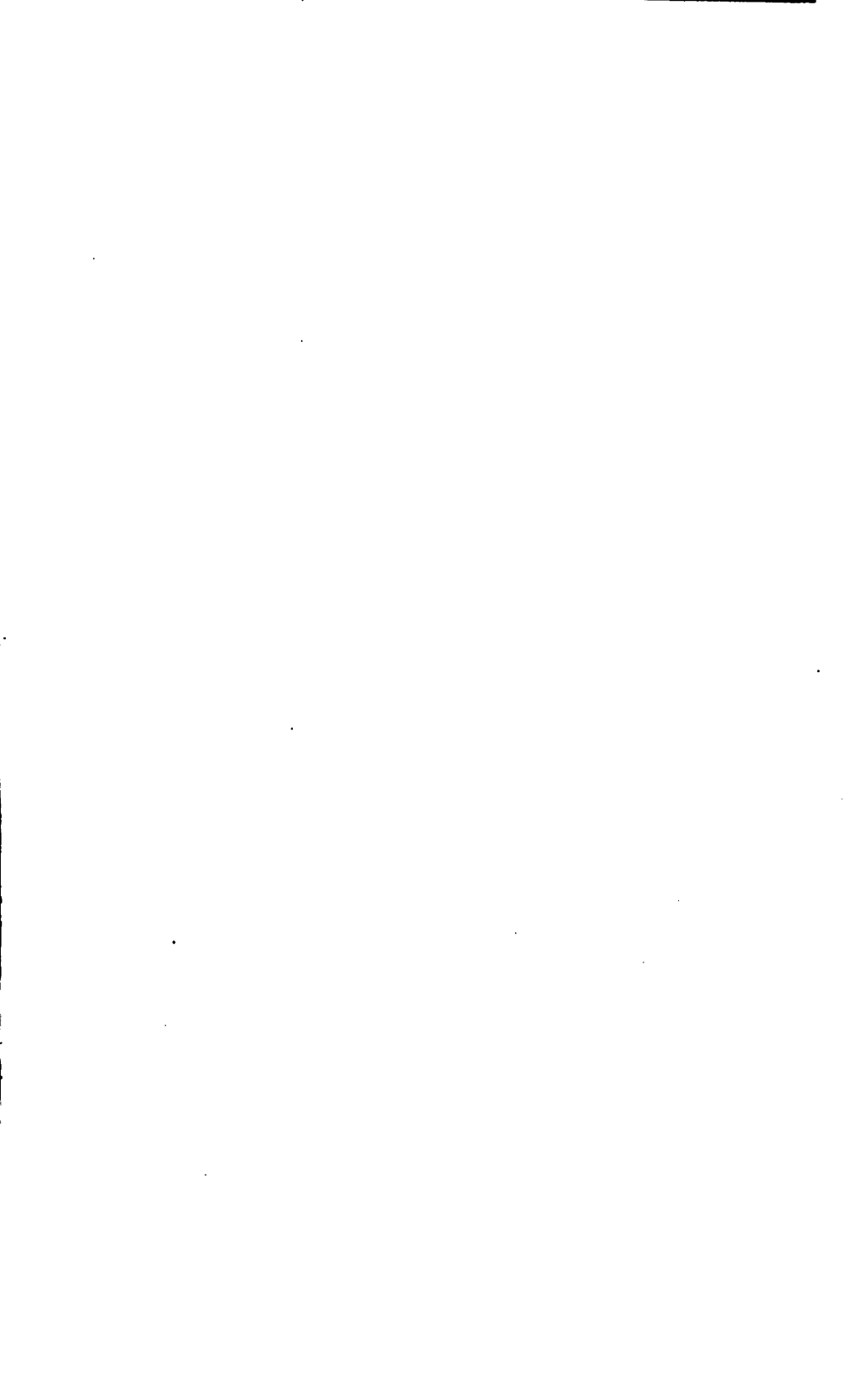














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